

a) Organosilanes of the type $(RO)_3Si(C_nH_{2n+1})$ and $(RO)_3Si(C_nH_{2n-1})$,

R = alkyl,

n = 1 - 20;

b) Organosilanes of the type $R'_x(RO)_ySi(C_nH_{2n+1})$ and $(RO)_3Si(C_nH_{2n+1})$

R = alkyl,

R' = alkyl,

R' = cycloalkyl

N = 1 - 20,

x+y = 3,

x = 1, 2,

y = 1, 2;

c) Halogen organosilanes of the type $X_3Si(C_nH_{2n+1})$ and $X_3Si(C_nH_{2n-1})$

X = Cl, Br,

n = 1 - 20;

d) Halogen organosilanes of the type $X_2(R')Si(C_nH_{2n+1})$ and

$X_2(R')Si(C_nH_{2n-1})$,

X = Cl, Br

R' = alkyl

$R' = \text{cycloalkyl}$

$n = 1 - 20;$

e) Halogen organosilanes of the type $X(R')_2 Si(C_nH_{2n+1})$ and

$X(R')_2 Si(C_nH_{2n-1})$

$X = Cl, Br;$

$R' = \text{alkyl}$

$R' = \text{cycloalkyl}$

$n = 1 - 20;$

f) Organosilanes of the type $(RO)_3Si(CH_2)_m-R'$

$R = \text{alkyl}$

$m = 0.1 - 20,$

$R' = \text{methyl-, aryl (e.g., } -C_6H_5, \text{ substituted phenyl groups)}$

$-C_4F_9, OCF_2-CHF-CF_3, -C_6F_{13}, -O-CF_2-CHF_2,$

$-NH_2, =N_3, -SCN, -CH=CH_2, -NH-CH_2-CH_2-NH_2,$

$-N-(CH_2-CH_2-CH_2NH_2)_2,$

$-OOC(CH_3)_c = CH_2,$

$-OCH_2-CH(O)CH_2,$

$-NH-CO-N-CO-(CH_2)_5,$

$-NH-COO-CH_3, -NH-COO-CH_2-CH_3, -NH-(CH_2)_3Si(OR)_3,$

$-S_x-(CH_2)_3Si(OR)_3,$

-SH, and

-NR'R''R''' , wherein R' = alkyl, aryl; R'' = H, alkyl, aryl; and R''' = H, alkyl, aryl, benzyl, or C₂H₄NR'''' R'''' with R'''' = H, alkyl and R'''' = H, alkyl;

g) Organosilanes of the type (R'')_x (RO)_ySi(CH₂)_m-R'

R'' = alkyl, cycloalkyl,

x+y = 2,

x = 1, 2,

y = 1, 2,

m = 0.1 to 20,

R' = methyl-, aryl, -C₆H₅, substituted phenyl groups

-C₄F₉, -OCF₂-CHF-CF₃, -C₆F₁₃, -O-CF₂-CHF₂,

-NH₂, -N₃, SCN, -CH=CH₂, -NH-CH₂-CH₂-NH₂,

-N-(CH₂-CH₂-NH₂)₂,

-OOC (CH₃)C = CH₂,

-OCH₂-CH(O) CH₂,

-NH-CO-N-CO-(CH₂)₅

-NH-COO-CH₃, -NH-COO-CH₂-CH₃, -NH-(CH₂)₃Si(OR)₃,

-S_x-(CH₂)₃Si(OR)₃

-SH, and

-NR'R''R''', wherein R' = alkyl, aryl; R'' = H,

alkyl, aryl; and $R''' = H, \text{ alkyl, aryl, benzyl, or}$
 $C_2H_4NR'''' R'''''$ with $R'''' = H, \text{ alkyl and}$
 $R'''' = H, \text{ alkyl) ;}$

h) Halogen organosilanes of the type $X_3Si(CH_2)_m-R'$

$X = Cl, Br,$

$m = 0, 1 - 20,$

$R' = \text{methyl-, aryl-, } -C_6H_5, \text{ substituted phenyl groups}$

$-C_4F_9, -OCF_2-CHF-CF_3, -C_6F_{13}, -O-CF_2-CHF_2,$

$-NH_2, -N_3, SCN, -CH=CH_2, -NH-CH_2-CH_2-NH_2,$

$-N-(CH_2-CH_2-NH_2)_2,$

$-OOC(CH_3)C=CH_2,$

$-OCH_2-CH(O)CH_2,$

$-NH-CO-N-CO-(CH_2)_5,$

$-NH-COO-CH_3, -NH-COO-CH_2-CH_3, -NH-(CH_2)_3Si(OR)_3,$

$-S_x-(CH_2)_3Si(OR)_3, \text{ and}$

$-SH;$

i) Halogen organosilanes of the type $(R)X_2Si(CH_2)_m-R'$

$X = Cl, Br,$

$R = \text{alkyl such as methyl, - ethyl-, propyl-,}$

$m = 0, 1 - 20,$

R' = methyl-, aryl [(e.g.), -C₆H₅, substituted phenyl groups,

-C₄F₉, -OCF₂-CHF-CF₃, -C₆F₁₃, -O-CF₂-CHF₂,

-NH₂, -N₃, SCN, -CH=CH₂, -NH-CH₂-CH₂-NH₂,

-N-(CH₂-CH₂-NH₂)₂,

-OOC (CH₃)C = CH₂,

-OCH₂-CH(O) CH₂,

-NH-CO-N-CO-(CH₂)₅,

-NH-COO-CH₃, -NH-COO-CH₂-CH₃, -NH-

(CH₂)₃Si(OR)₃,

-S_x-(CH₂)₃Si(OR)₃ ,

-SH;

(j) Halogen organosilanes of the type (R)₂X Si(CH₂)_m-R'

X = Cl, Br,

R = alkyl,

m = 0, 1 - 20,

R' = methyl-, aryl-, -C₆H₅, substituted phenyl groups,

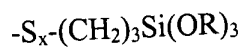
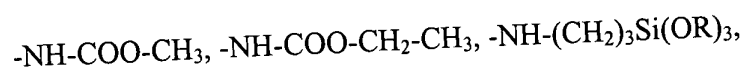
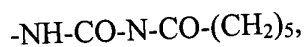
-C₄F₉, -OCF₂-CHF-CF₃, -C₆F₁₃, -O-CF₂-CHF₂,

-NH₂, -N₃, SCN, -CH=CH₂, -NH-CH₂-CH₂-NH₂,

-N-(CH₂-CH₂-NH₂)₂,

-OOC (CH₃)C = CH₂,

-OCH₂-CH(O) CH₂,



Al (k) Silazanes of the type $\text{R}'\text{R}_2\text{Si}-\text{N}-\text{SiR}_2\text{R}'$

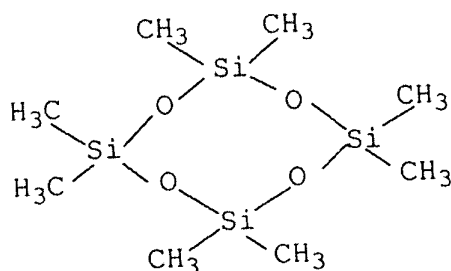


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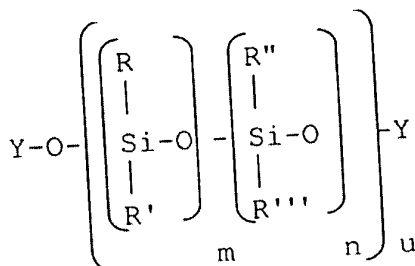
R = alkyl,

R' = alkyl, vinyl; or

(l) Cyclic polysiloxanes of the type D 3, D 4 or D 5:



m) Polysiloxanes or silicone oils of the type



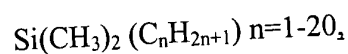
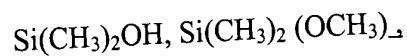
$$m = 0, 1, 2, 3, \dots \infty$$

$$n = 0, 1, 2, 3, \dots \infty$$

$$u = 0, 1, 2, 3, \dots \infty$$

$$Y=CH_3, H, C_nH_{2n+1} \quad n=1-20$$

$$Y=Si(CH_3)_3, Si(CH_3)_2H$$



R = alkyl, aryl, $(CH_2)_n-NH_2$, H,

R' = alkyl, aryl, $(CH_2)_n-NH_2$, H,

R'' = alkyl, aryl, $(CH_2)_n-NH_2$, H,

R''' = alkyl, aryl, $(CH_2)_n-NH_2$, H.,

4. (Amended) A method of producing the surface-modified oxides in accordance with claim 1 or 2, comprising placing pyrogenically produced oxides doped by aerosol in a suitable mixing container, spraying the oxides under intensive mixing with the surface-modification reagent or a mixture of several surface-modification reagents.

5. (Amended) In a reinforcing filler composition wherein the improvement comprises the surface-modified oxides according to claim 1 or 2 as reinforcing filler.

6. (New) The method of claim 4 wherein the spraying step includes spraying with water and/or acid prior to the spraying with the surface-modification reagent or a mixture of several surface-modification reagents.

A2 7. (New) The method of claim 4 further comprising re-mixing at 15 to 30 minutes and tempering at a temperature of 100 to 400 °C for a period of 1 to 6 hours.

8. (New) The surface-modified, pyrogenically produced oxides according to claim 3 wherein the cyclic polysiloxanes is type D 4.

9. (New) The surface-modified, pyrogenically produced oxides according to claim 8 wherein the type D4 cyclic polysiloxanes is octamethylcyclotetrasiloxane.